PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION.

Improvements in or relating to Nut Locks.

I, STANLEY WATKIN DARKER, of 267, Roman Road, Bow, E. 3, subject of the King of England, do hereby declare the nature of this invention to be as follows:—

This invention is for improvements in or relating to nut locks and has reference to nut locks of the type comprising a main nut and a lock nut, with male and female conical contacting parts on such nuts, the male part being split and engaging the bolt. Thus by drawing the lock nut upon the main nut the conical faces operate to wedge the split male part on to the bolt thus securing the desired locking effect.

According to the present invention the aforesaid male and female conical surfaces are screw-threaded throughout their entire length. A convenient means is thus provided for drawing the lock nut on to the main nut and obtaining the wedging action. By threading the conical surfaces throughout their entire length there will be a much better chance of securing an efficient operation than if these surfaces are only threaded throughout a portion of their length. For instance if a fine thread, such as a gas thread, is employed between the lock nut and the main nut and the threaded portion on one or other of these parts is not of sufficient length there is the danger that the threads may strip when the lock nut is being rotated into operative position. This danger is, however, obviated by the adoption of the arrangement according to the present invention.

Conveniently at the wider end of the male conical part there is provided a flange or shoulder with which a portion of that nut which constitutes the female part can contact to set a limit to the amount of radial compression exerted upon the male part. Thus instead of the female conical part being screwed down the male conical part until such a degree of compression is reached that it is impossible to screw it down any further, which arrangement is liable to cause stripping of the threads or possible bursting of one of the nuts, the aforesaid flange or shoulder operates to prevent such excessive wedging action arising.

One constructional form of nut lock according to the present invention comprises a main nut split completely through at one side and having a central aperture threaded to receive the bolt. The outside surface of this main nut is partly hexagonal or other suitable shape to receive a spanner and partly conical, the conical part having its wider end starting from the hexagonal part which latter is of larger diameter thus constituting a flange. The conical part is threaded throughout its entire length with some suitable thread say a gas thread. Received upon this conical part is the lock nut which has a central conical aperture threaded throughout the entire thickness of the lock nut and of suitable proportions to be received upon the conical threaded part of the main nut. The outer part of the lock nut is of hexagonal or other suitable shape to receive a spanner. In thickness the lock nut is less than the length of the conical part of the main nut and after the two nuts have been placed together the smaller end of the conical part of the main nut may be spun over to prevent the

[*Price* 1/-]

lock nut from being displaced. The thickness of the lock nut, however, is less than the length of the conical part of the main nut so that it is possible to screw the lock nut up and down the main nut to compress the latter to a greater or lesser degree.

The invention is, of course, not limited to the precise constructional details set forth above.

Dated this 26th day of April, 1920.

BOULT, WADE & TENNANT,
111 & 112, Hatton Garden, London, E.C. 1,
Chartered Patent Agents.

COMPLETE SPECIFICATION.

Improvements in or relating to Nut Locks.

I, STANLEY WATKIN DARKER, of 267, Roman Road, Bow, E. 3, subject of the King of England, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is for improvements in or relating to nut locks and has reference to nut locks of the type comprising a main nut and a lock nut, with male and female conical contacting parts on such nuts, the male part being split and engaging the bolt. Thus by drawing the lock nut upon the main nut the conical faces operate to wedge the split male part on to the bolt thus securing the desired locking effect.

According to the present invention the aforesaid male and female conical surfaces are screw-threaded throughout their entire length. A convenient means is thus provided for drawing the lock nut on to the main nut and obtaining the wedging action. By threading the conical surfaces throughout their entire length there will be a much better chance of securing an efficient operation than if these surfaces are only threaded throughout a portion of their length. For instance if a fine thread, such as a gas thread, is employed between the lock nut and the main nut and the threaded portion on one or other of these parts is not of sufficient length there is the danger that the threads may strip when the lock nut is being rotated into operative position. This danger is, however, obviated by the adoption of the arrangement according to the present invention.

Conveniently at the wider end of the male conical part there is provided a flange or shoulder with which a portion of that nut which constitutes the female part can contact to set a limit to the amount of radial compression exerted upon the male part. Thus instead of the female conical part being screwed down the male conical part until such a degree of compression is reached that it is impossible to screw it down any further, which arrangement is liable to cause stripping of the threads or possible bursting of one of the nuts, the aforesaid flange or shoulder operates to prevent such excessive wedging action arising.

For a more complete understanding of the invention there will now be described, by way of example and with reference to the accompanying drawings, one constructional form of nut lock according to the present invention. It is to be understood, however, that the invention is not limited to the precise constructional details set forth.

In these drawings:—

Figure 1 is a plan view of the main nut with the lock nut in position thereon.

Figure 2 is a section on the line 2—2 of Figure 1 looking in the direction of the arrows *a*, and

Figure 3 is an underplan view (looking in the direction of the arrows *b*) of the main nut with the lock nut in position thereon.

Like reference numerals indicate like parts throughout the drawings.

The constructional form of nut lock according to the present invention shown in the drawings comprises a main nut 10 split completely through at one side at 11 and having a central aperture 12 threaded to receive the bolt. The outside surface of this main nut is partly hexagonal or of other suitable shape to receive a spanner, as at 13, and partly conical, as at 14, the conical part having its wider end starting from the hexagonal part which latter is of larger diameter thus constituting a flange. The conical part is threaded throughout its entire length with some suitable thread say a gas thread. Received upon this conical part

is the lock nut 15 which has a central conical aperture 16 threaded throughout the entire thickness of the lock nut and of suitable proportions to be received upon the conical threaded part of the main nut. The outer surface 17 of the lock nut is of hexagonal or other suitable shape to receive a spanner. In thickness the lock nut is less than the length of the conical part of the main nut and after the two nuts have been placed together the smaller end 18 of the conical part of the main nut may be spun over to prevent the lock nut from being displaced, but since the thickness of the lock nut is less than the length of the conical part of the main nut, it is possible to screw the lock nut up and down the main nut to compress the latter to a greater or lesser degree. The main nut will thus be caused to grip the bolt and will be locked in position thereon. By suitably proportioning the parts, the face 19 of the lock nut can be caused to engage the face 20 on the main nut before excessive compression has been set up in the latter. Damage to the nuts will thus be prevented.. By threading the conical surfaces of the nuts throughout their entire length however, the likelihood of the threads thereon being stripped due to excessive compression is considerably lessened.

The invention is, of course, not limited to the precise constructional details set forth above.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A nut lock comprising a main nut, and a lock nut, with male and female conical contacting parts on such nuts, the male part being split and engaging the bolt, characterised in that the said conical surfaces are screw threaded throughout their entire length, for the purpose specified.

2. A nut lock according to Claim No. 1, and having at the wider end of the male conical part, a flange or shoulder with which a portion of that nut which constitutes the female part can contract to set a limit to the amount of radial compression exerted upon the male part.

3. The nut lock substantially as illustrated in the accompanying drawings, or substantially as described.

Dated this 28th day of February, 1921.

BOULT, WADE & TENNANT,
111 & 112, Hatton Garden, London,
E.C. 1,
Chartered Patent Agents.

Reference has been directed, in pursuance of section 7, sub-section 4, of the Patents and Designs Acts, 1907 and 1919, to Specifications No. 17,799 of 1890, and No. 2422 of 1898.

This reference is inserted as the result of a Provisional Report under Rule 29 of the Patents Rules, 1920.

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Fig.1.

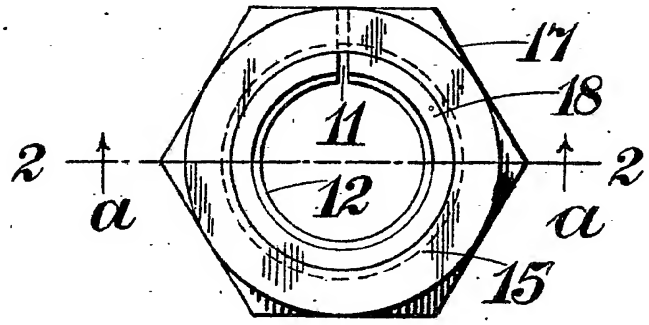


Fig.2.

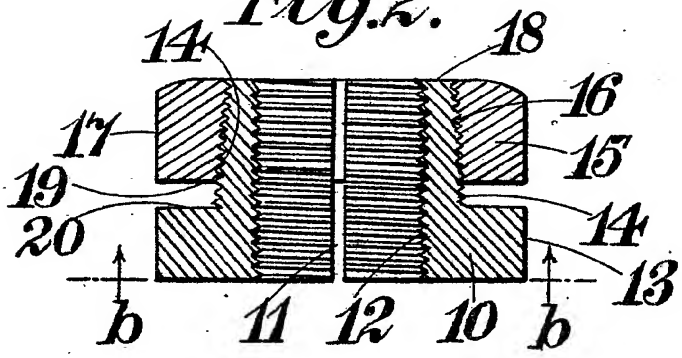
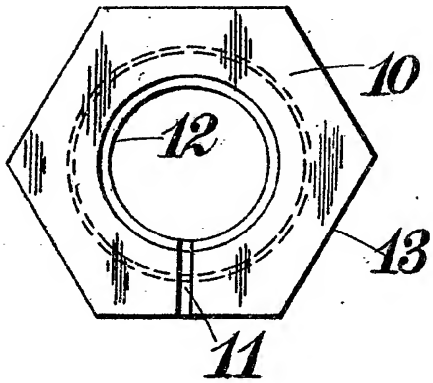


Fig.3.



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